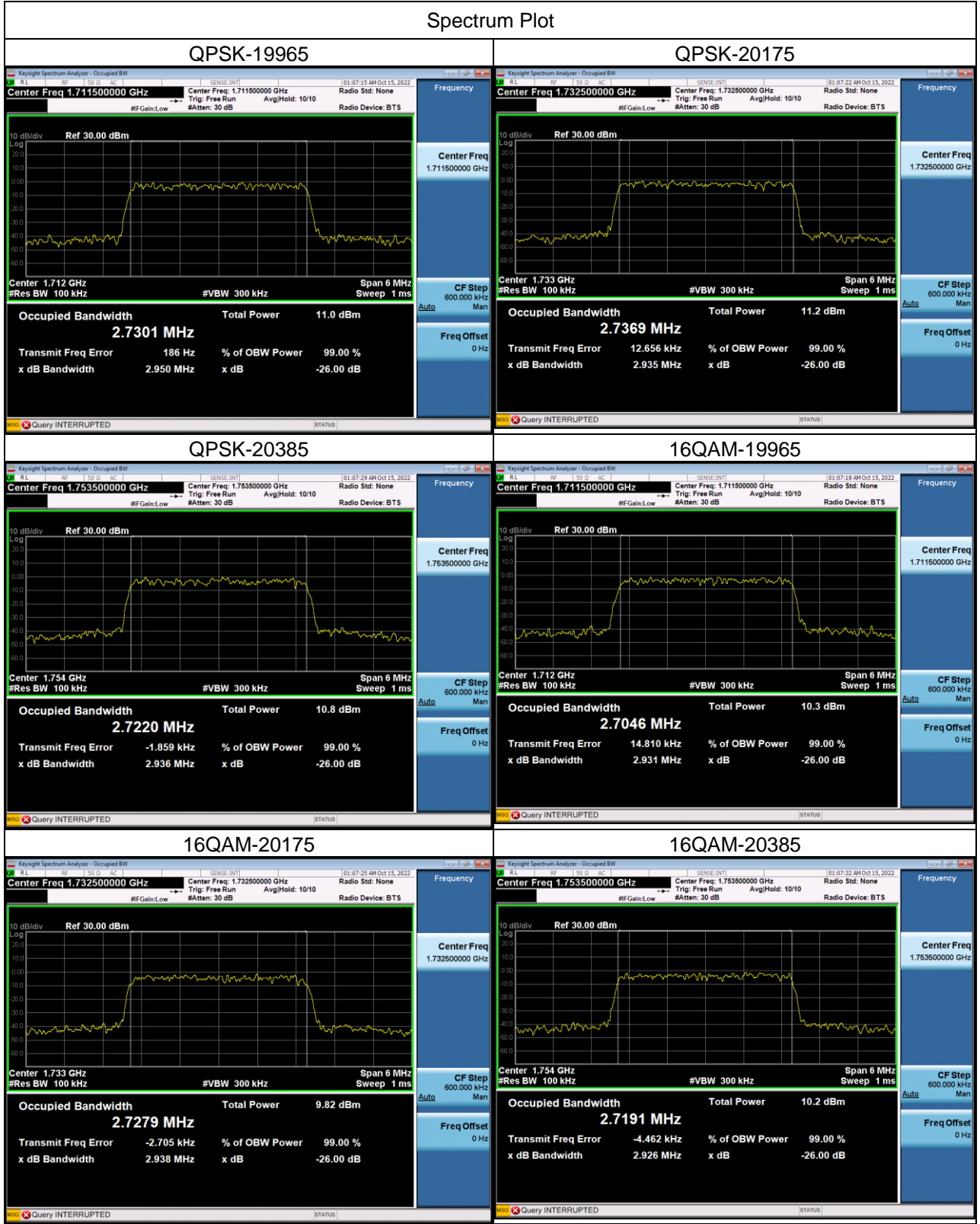




LTE Band 4_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7301	19965	1711.5	2.950
20175	1732.5	2.7369	20175	1732.5	2.935
20385	1753.5	2.7220	20385	1753.5	2.936
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7046	19965	1711.5	2.931
20175	1732.5	2.7279	20175	1732.5	2.938
20385	1753.5	2.7191	20385	1753.5	2.926
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7035	19965	1711.5	2.952
20175	1732.5	2.7198	20175	1732.5	2.946
20385	1753.5	2.7196	20385	1753.5	2.956

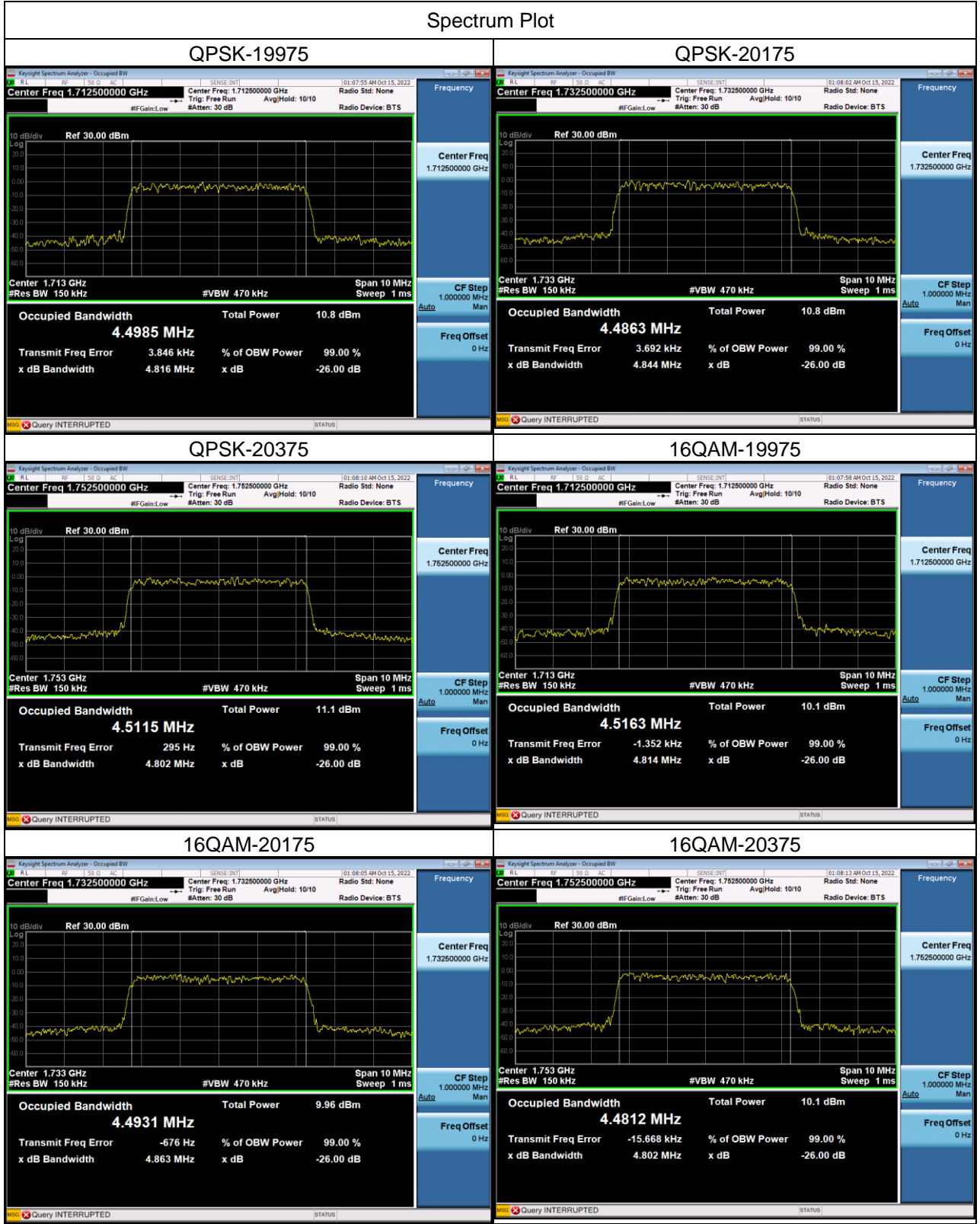
## Spectrum Plot

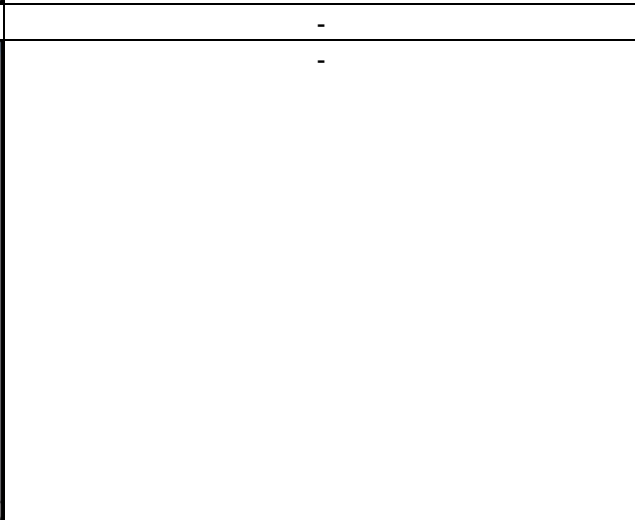
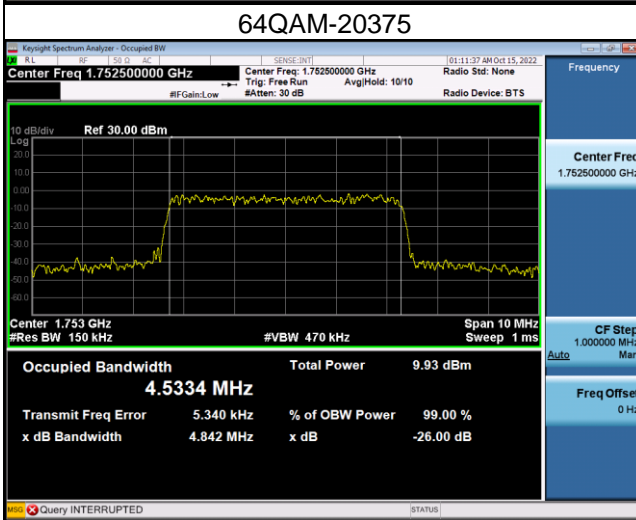
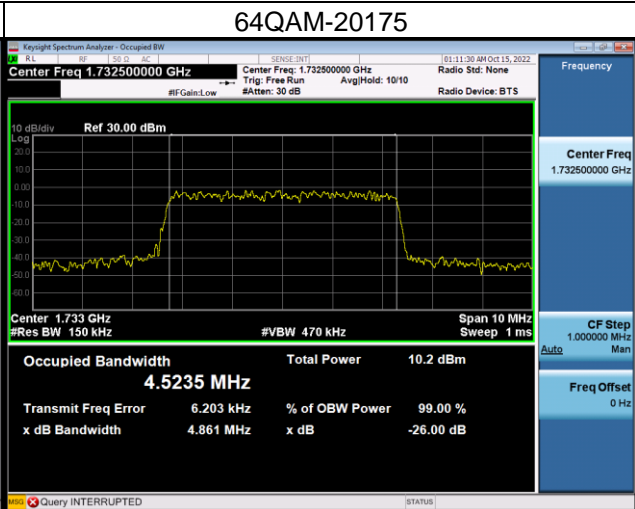
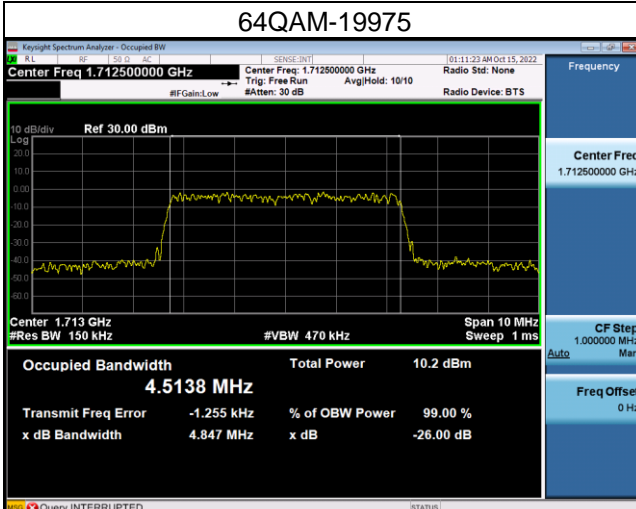




LTE Band 4_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.4985	19975	1712.5	4.816
20175	1732.5	4.4863	20175	1732.5	4.844
20375	1752.5	4.5115	20375	1752.5	4.802
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5163	19975	1712.5	4.814
20175	1732.5	4.4931	20175	1732.5	4.863
20375	1752.5	4.4812	20375	1752.5	4.802
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5138	19975	1712.5	4.847
20175	1732.5	4.5235	20175	1732.5	4.861
20375	1752.5	4.5334	20375	1752.5	4.842

## Spectrum Plot



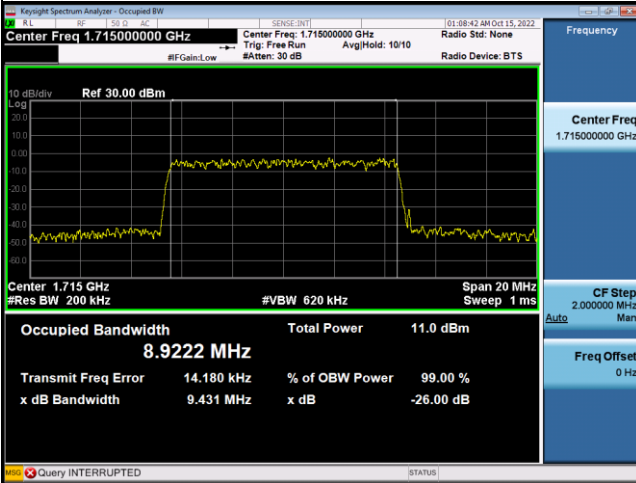


LTE Band 4_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9222	20000	1715	9.431
20175	1732.5	8.9370	20175	1732.5	9.567
20350	1750	8.9200	20350	1750	9.426
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9732	20000	1715	9.503
20175	1732.5	8.9855	20175	1732.5	9.459
20350	1750	8.9837	20350	1750	9.492
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9588	20000	1715	9.609
20175	1732.5	8.9721	20175	1732.5	9.425
20350	1750	8.9579	20350	1750	9.435

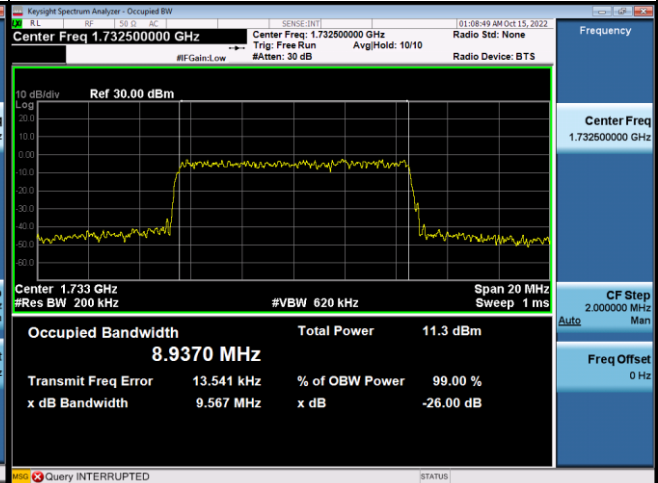


## Spectrum Plot

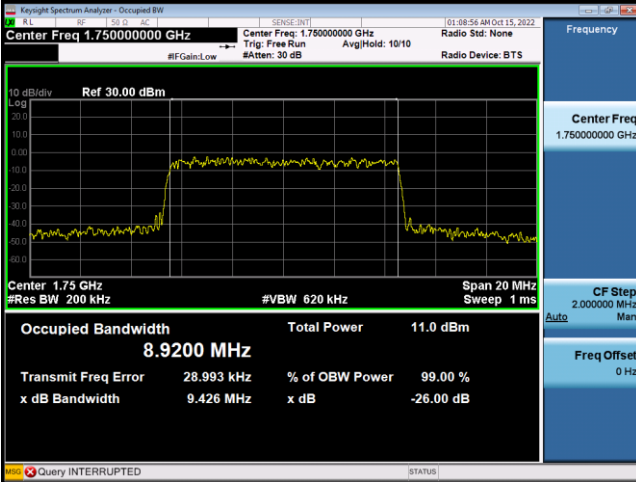
### QPSK-20000



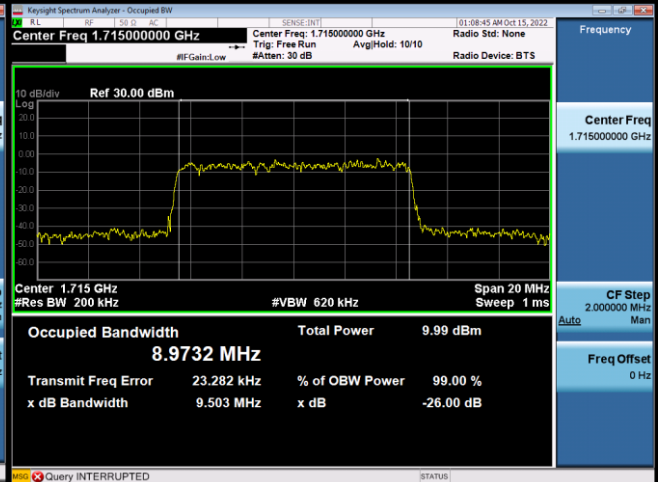
### QPSK-20175



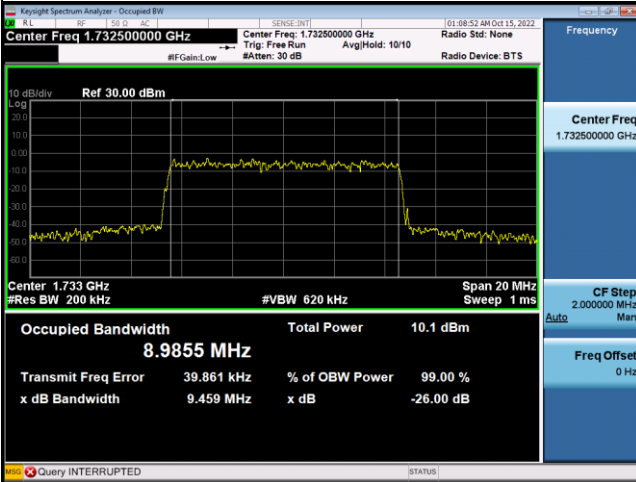
### QPSK-20350



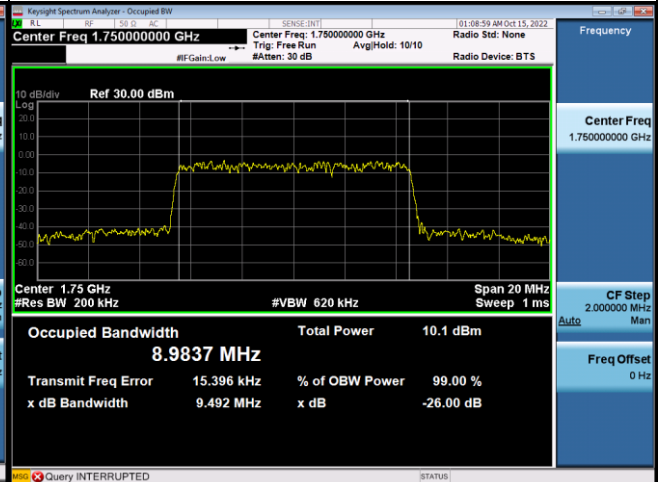
### 16QAM-20000

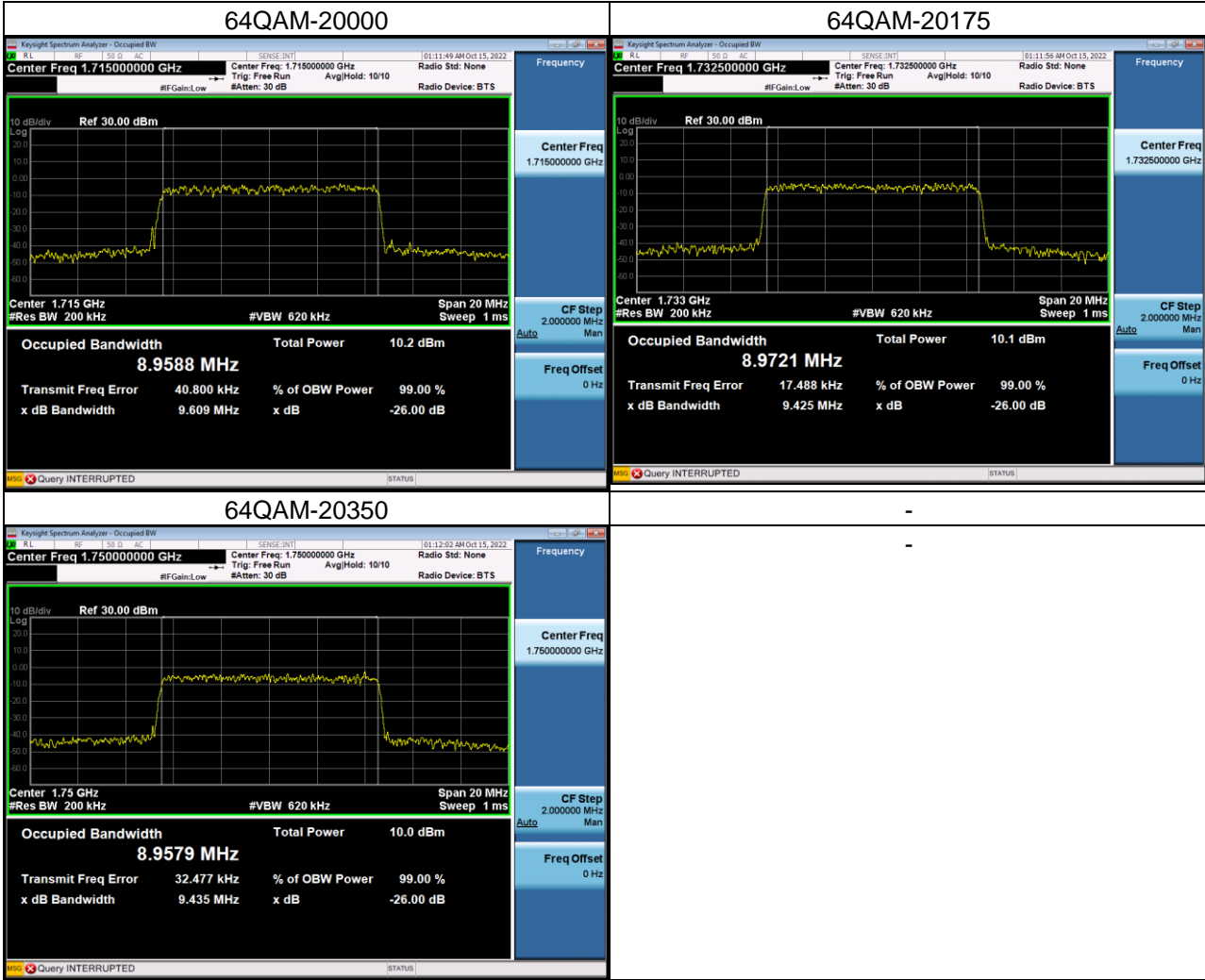


### 16QAM-20175



### 16QAM-20350

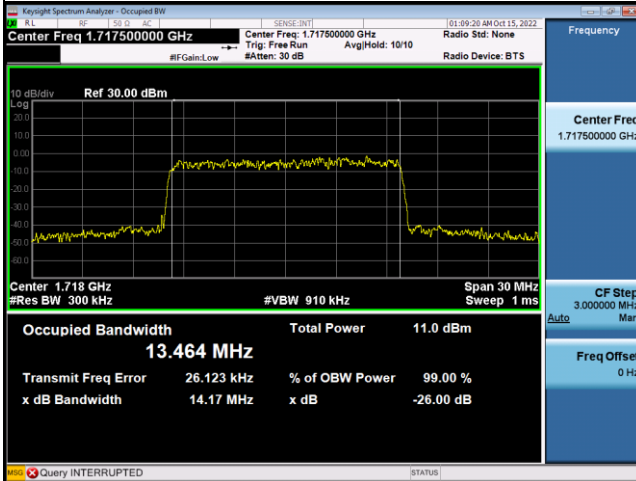




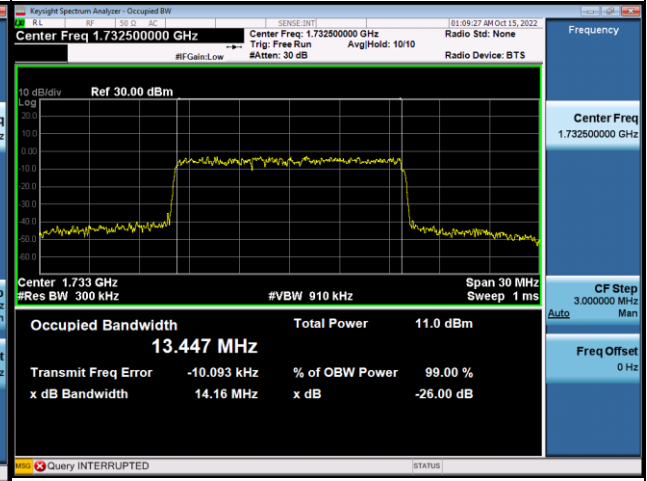
LTE Band 4_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.464	20025	1717.5	14.17
20175	1732.5	13.447	20175	1732.5	14.16
20325	1747.5	13.463	20325	1747.5	14.17
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.428	20025	1717.5	14.13
20175	1732.5	13.436	20175	1732.5	14.18
20325	1747.5	13.471	20325	1747.5	14.26
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.410	20025	1717.5	14.13
20175	1732.5	13.488	20175	1732.5	14.17
20325	1747.5	13.449	20325	1747.5	14.20

## Spectrum Plot

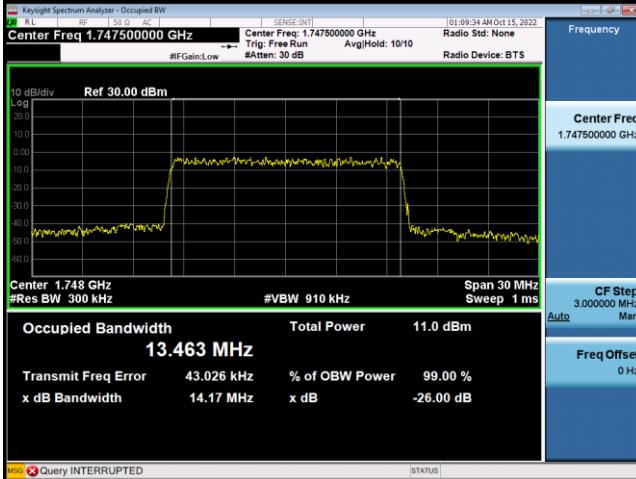
### QPSK-20025



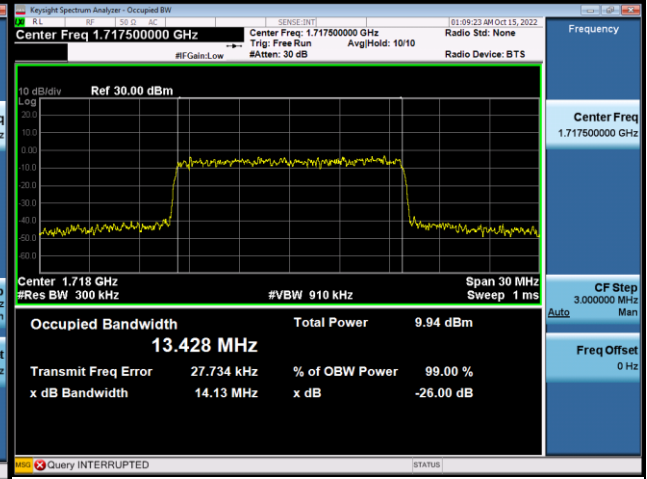
### QPSK-20175



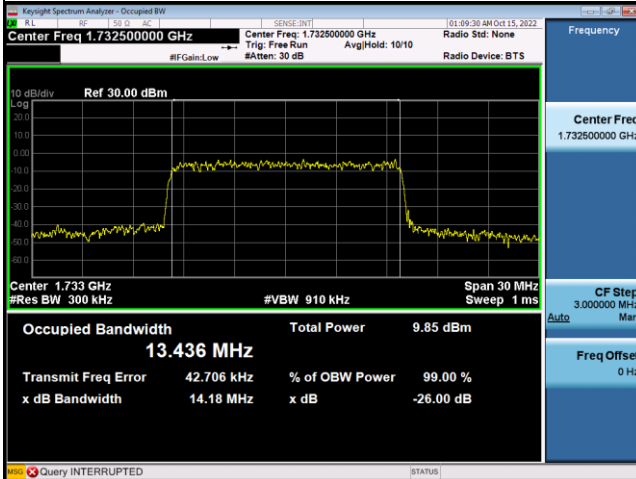
### QPSK-20325



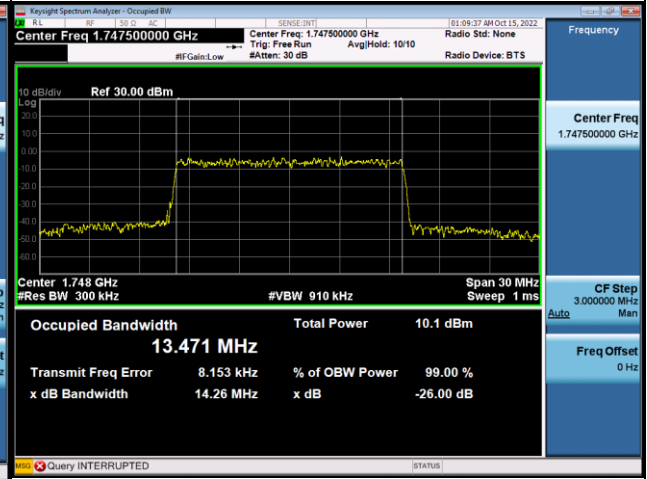
### 16QAM-20025

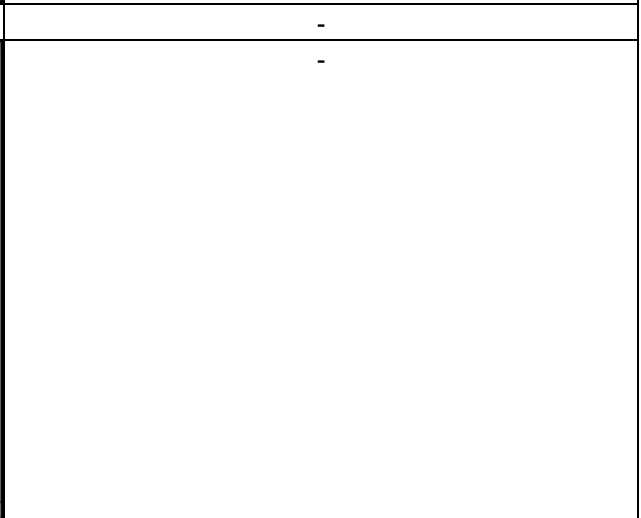
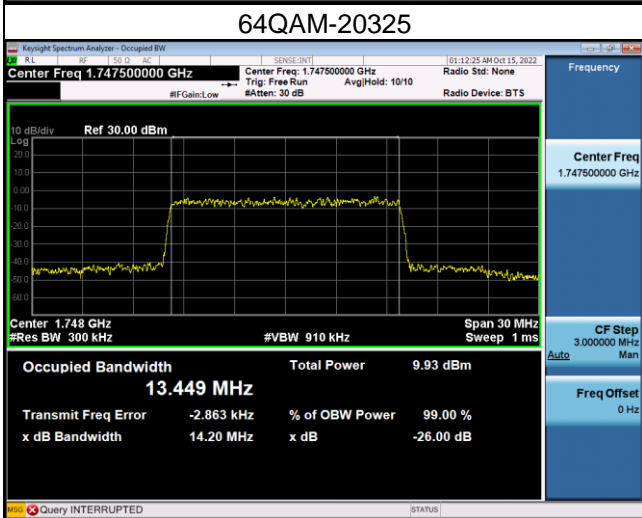
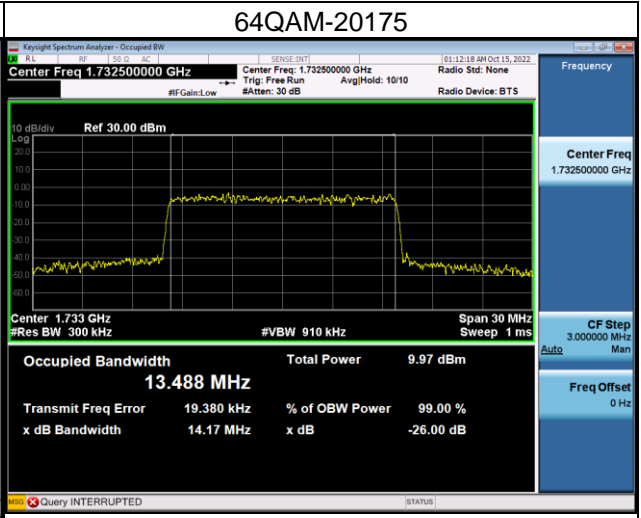
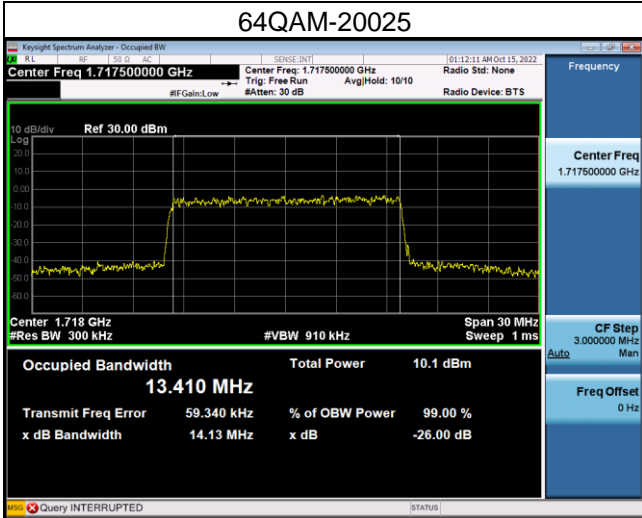


### 16QAM-20175



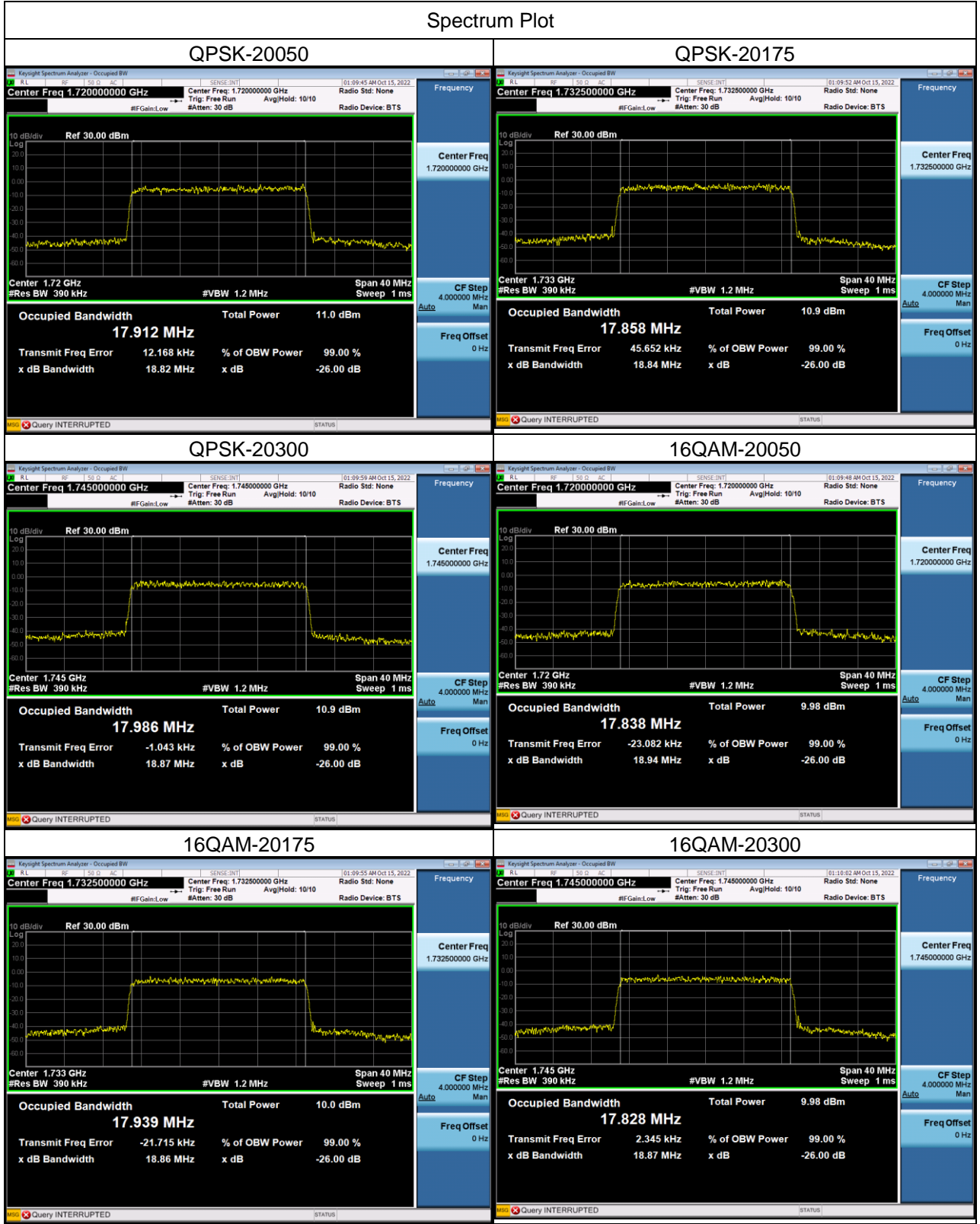
### 16QAM-20325

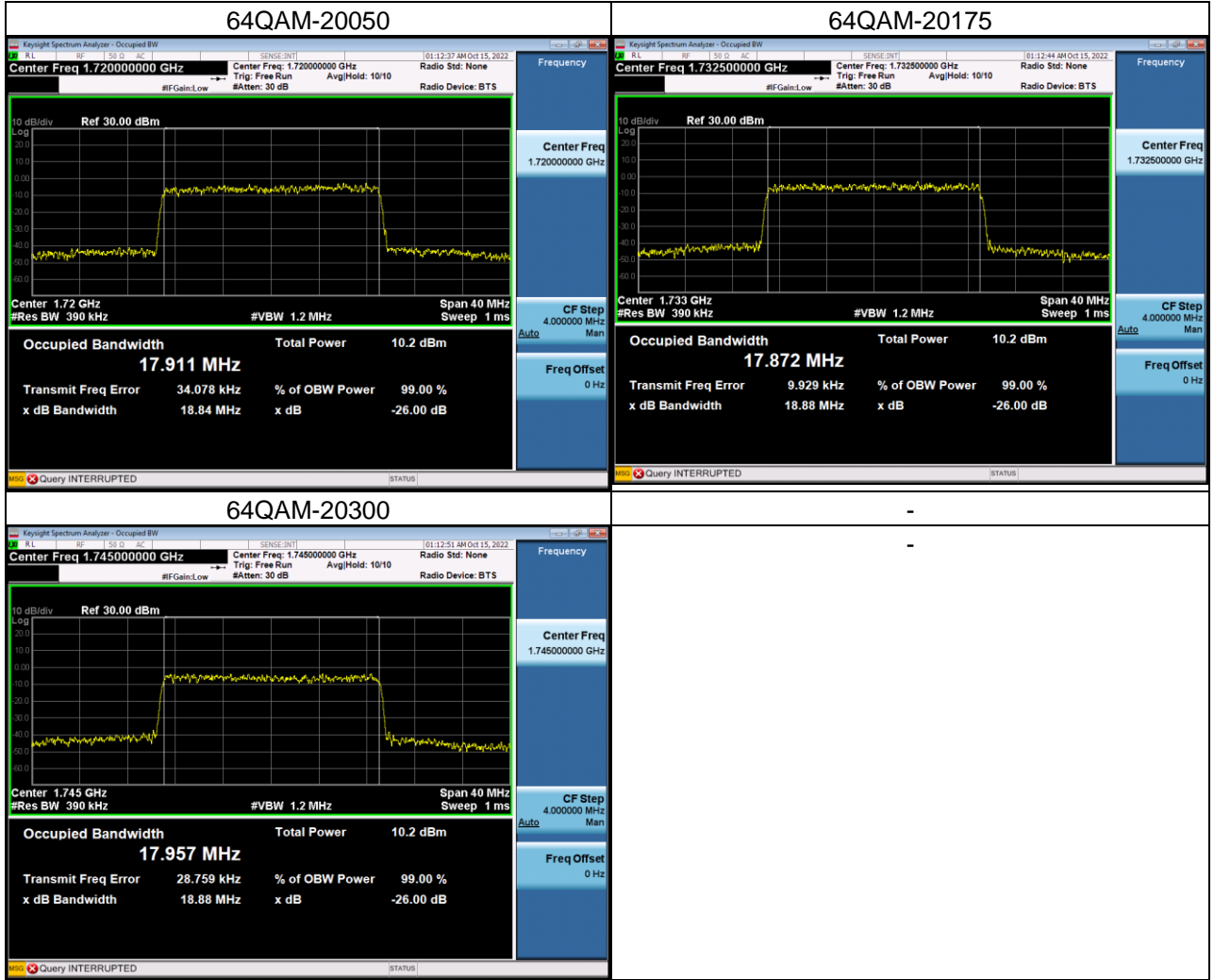




LTE Band 4_20M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20050	1720	17.912	20050	1720	18.82
20175	1732.5	17.858	20175	1732.5	18.84
20300	1745	17.986	20300	1745	18.87
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20050	1720	17.838	20050	1720	18.94
20175	1732.5	17.939	20175	1732.5	18.86
20300	1745	17.828	20300	1745	18.87
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20050	1720	17.911	20050	1720	18.84
20175	1732.5	17.872	20175	1732.5	18.88
20300	1745	17.957	20300	1745	18.88

## Spectrum Plot







LTE Band 7_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20775	2502.5	4.5303	20775	2502.5	4.830
21100	2535	4.5174	21100	2535	4.839
21425	2567.5	4.5133	21425	2567.5	4.816
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20775	2502.5	4.5176	20775	2502.5	4.806
21100	2535	4.5096	21100	2535	4.831
21425	2567.5	4.5016	21425	2567.5	4.813
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20775	2502.5	4.5259	20775	2502.5	4.829
21100	2535	4.5242	21100	2535	4.837
21425	2567.5	4.5170	21425	2567.5	4.823